XLIV. *Monograph on the Coleopterous Genus* Diphucephala, *belonging to the* Lamellicornes. *By* G. R. Waterhouse, *Esq., M.E.S., and Curator to the Zoological Society of London.*

[Read 2nd November, 1835.]

Diphucephala, *De Jean.* Plate XXII. fig. 1—6.

Corpus oblongum: abdomen ventre valde convexo et fere gibbo: clypeus antice profunde emarginatus: mandibulæ breves, subarquatæ: maxillæ mandibuliformes, apice tridentatæ: palpi maxillares articulo basali brevi, articulo terminali robustiore, coniformi; mentum subtriangulare: antennæ 8-articulatæ, clavâ triphyllâ: tarsi maris antici articulis 4 primis dilatatis, subtus pubescentes.

Obs. A narrow portion of the clypeus extends backwards on to the eye, and in all the species I have examined is furnished with a tuft of pale hairs. The prevailing colour of the species of this genus (which appears to be confined to Australia) is of a metallic green, varying to shades of a brassy, golden, or copper-like hue. The principal generic character consists in the deeply emarginate clypeus, a character which at once distinguishes *Diphucephala* from its allies, *Serica*, *Macrodactyla*, and other genera of the *Phyllophaga* in which, like our present genus, the claws are bifid *.

The twelve species of *Diphucephala* I have examined appear to be allied to each other thus:

D. sericea.

Childrenii,
Hopei,
affinis,
Edwardsii,
splendens,
pulchella.

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pilistriata,
castanoptera,
aurulenta,
parvula.

Spencii.

* It is worthy of observation that in this character, of the bifid claws, there exists an analogous structure to that of the bees. The analogy is the more perfect

Several of the species of *Diphucephala* very closely resemble each other, and might easily be confounded unless minutely examined; and as in writing this monograph it has been essential that I should do so, it occurred to me that much time might be saved to those who may use the following descriptions in investigating the species, were I to make a few preliminary observations upon the characters which have been chiefly chosen by me for their separation.

With respect to the form, the deeply emarginated clypeus has been mentioned as a generic character; there is however considerable variation as to the *extent* of the emargination, and the form of the lateral processes, as I have termed the projecting parts of the clypeus, caused by the deep emargination.

In *D. sericea* the emargination in the males is moderate. In *D. Childrenii, Hopei,* and *affinis* the emargination is very deep, and the projecting processes either have the inner edges parallel with each other, or else their apices are somewhat approximating. In *D. Edwardsii* the emargination is also deep, but the lateral processes are slightly diverging. *D. splendens* and *pulchella* have the emargination of the clypeus moderate, the projecting processes not very wide apart, but diverging at the apex. In the remaining species the clypeus is not deeply emarginated, and the projecting processes (in all excepting *parvula*) are wide apart and diverge at the apex.

The length of the thorax is generally about equal to the width (which is slightly narrower than the elytra); it always has the anterior part truncated, the posterior margin dilated in the region of the scutellum, and the posterior angles more or less acute. The lateral margins are always straight, and parallel with each other, posteriorly; dilated in the middle, and from thence contracted gradually to about the same width as the head. In *D. pulchella, aurulenta, pilistriata,* and *Spencii* the dilated part of the lateral margin is produced into a tooth-like process; in the remaining species it is rounded or somewhat angular.

since in our present subjects, as well as in bees, there is a similar difference in the structure of the claws of the two sexes. In the males the divisions of the bifid claws are of equal length or nearly so; whilst in the females the inner portion of each is considerably shorter than the outer; the claws are also less deeply cleft in the females. In the sexes of *D. sericea* these characters are very evident. In the male of *D. splendens* the inner division of the claw is not quite so long as the outer, (in which respect this species differs from the same sex of the foregoing, as in that they are quite equal,) still between the male and female there is an evident difference in the proportionate length, as may be seen by comparing the drawings.

I should not have dwelt upon these points, but it appeared that by thus observing the same peculiarities in different orders, which nevertheless resemble each other in some of their habits, we may gain a clue to the discovery of the uses of such structure.

As regards sculpture, the thorax is always furnished with a dorsal channel more or less distinct; this is a simple groove in all the species excepting *D. aurulenta* and *parvula*, in which it is very broad, and divided on the basal half of the thorax by a longitudinal elevated smooth ridge; or we may describe the thorax of these species as having a dorsal channel on the fore part *only*, (which is indistinct in *parvula*, and rather deep in *aurulenta*,) and posteriorly having two longitudinal foveæ.

All the species have a fovea on each side near the lateral margin and at the dilated part of the thorax: these foveæ are very large and extend from the margin (where they are broadest) to the dorsal channel, and form a transverse depression in *D. pilistriata, castanoptera, aurulenta*, and *parvula*; in the remaining species they are confined to the margins. In *D. pulchella* they are very large and rather deep.

The anterior tibiæ have generally the external part produced, beyond the base of the tarsus, into a pointed process: behind this, and still on the external part, there is another pointed, or tooth-like process; where this obtains I have described the tibiæ as bidentate externally. There is also, in some of the species, a tooth-like process springing, and projecting at right angles, from the apex of the inner part of the tibia; this last character is peculiar to the males, and is found only in *D. Childrenii, Hopei, affinis, Edwardsii*, and *splendens* *. *D. affinis* has the outer portion of the anterior tibiæ but slightly elongated and the adjoining tooth indistinct, in which respect it differs from those species nearest allied. In *D. splendens* the two outer processes are closer together than in either *D. Childrenii*, or *Edwardsii*, and the apical one is recurved.

In *D. splendens* and *Hopei* (and in the females only) there are two short spines on the under part of the basal joint of the tarsus; a character which separates them from allied species; the simple anterior tibia will render it easy to distinguish *D. Hopei*.

Species 1. D. SERICEA.

Melolontha sericea. Kirby, in Linn. Trans., vol. xii. p. 463.

D. viridis, supra sericeo-nitida, pilis sparsis decumbentibus, subtus ex pilis albis decumbentibus incana: capite punctulatissimo: thorace subconico, confluenter punctulatissimo, superne subcanaliculato, ad latera subspinoso: scutello acumi-

* Not having seen a perfect male of *D. pulchella*, I am not aware whether it possesses this character. *D. castanoptera* is another species which I must omit to notice, not having one by me at present to examine.

nato, triangulari, leviter in medio depresso, lævissimo; elytris subseriatim punctatis, lineis duabus longitudinalibus elevatiusculis: pedibus rufescentibus, pilis niveis obtectis; tarsis piceis; tibiis anticis ad apicem obsoletè bidentatis.

Long. corp. 4—5 lin.

Obs. The two tooth-like processes at the apex of the anterior tibiæ, in this species, are obtuse and placed rather close together; the terminal segment of the abdomen is nearly of the form of an equilateral triangle, finely punctured, convex, and partially covered with white decumbent hairs.

I am indebted to the original describer of this species (the Rev. W. Kirby) for the loan of a specimen for examination, and likewise to the Rev. F. W. Hope and J. G. Children, Esq., for the loan of several specimens of both sexes. There are specimens in the collections of the Entomological and Zoological Societies, and the British Museum, which I have examined.

Sp. 2. D. Childrenii.

D. viridis, supra sericeo-nitida, subtus pilis albis decumbentibus: capite confluenter punctato: thorace sub lente punctulatissimo, dorso subcanaliculato: elytris subseriatim punctatis: tarsis cyaneis; tibiis anticis bidentatis.

Long. corp. 4—5 lin.

Obs. This species is the only one, excepting *D. sericea*, which has a silk-like gloss on the upper surface of the body. The head and thorax are of a dull golden green colour; the elytra are of a bluish green, and the margins and suture frequently of a brighter and gold-green hue; they are rather faintly punctured (as in *D sericea*); the punctures are disposed in striæ and scarcely confluent. The terminal segment of the abdomen is somewhat triangular, very sparingly furnished with yellowish white pubescence; the sides and a longitudinal patch in the centre are bare: in the female there is a longitudinal fovea in the middle and one on each side. The scutellum is smooth and in the form of an equilateral triangle: the anterior tibiæ are bidentate externally, and furnished with a distinct tooth internally at the apex.

Through the kindness of J. G. Children, Esq., who has lent me all his specimens of *Diphucephala* for examination, I have been enabled, since the reading of this paper, to add two new species, *D. affinis*, and the one above described, which I have taken the liberty of naming after that gentleman.

Sp. 3. D. Hopei.

D. viridis, subtus pilis albis decumbentibus: capite confluenter punctato: thorace obscure viridi, sub lente punctulatissimo, dorso subcanaliculato: elytris nitidis, subseriatim punctatis, lineis duabus longitudinalibus elevatiusculis: tarsis cyaneis; tibiis anticis inermibus.

Long. corp. 4—5 lin.

Obs. In this species the thorax is dull in the male, being finely shagreened: in the female it is slightly glossy, and punctured; the lateral margins are slightly pubescent; the scutellum is impunctate, and impressed with a fovea in the middle. The anterior tibiæ are without the usual tooth near the apex, and the basal joint of the anterior tarsus in the female is armed beneath with two spines; the terminal segment of the abdomen is thickly punctured, slightly convex, and covered with decumbent yellowish hairs; in the female this part is impressed with an impunctate longitudinal fovea in the middle, which part is destitute of hairs.

The Rev. F. W. Hope received many specimens of this insect from the Swan River, which he lent me for examination. Some he has deposited in the collection of the Entomological Society. I have named the species after this gentleman, in testimony of the many kindnesses I have received from him.

Sp. 4. D. affinis.

D. viridis, nitida, subtus pilis albis decumbentibus: thorace punctulatissimo, dorso subcanaliculato: elytris subseriatim punctatis: tarsis cyaneis; tibiis anticis sub-bidentatis.

Long. corp. 4—4½ lin.

Obs. *D. affinis* is rather more brilliant in colour than its immediate allies. The body is of an uniform bright green above; the head and thorax of the male are a little less glossy than the elytra; the clypeus is deeply emarginate; the head is slightly rugose; scutellum smooth and triangular. The thorax of the female is distinctly punctured; the puncturing on the thorax of the male is much less distinct. The terminal segment of the abdomen is somewhat triangular, very sparingly furnished with minute decumbent hairs, and alike in both sexes, excepting that in the female it is rather shorter than in the other sex. The anterior tibia (which is bidentate externally) has the outer part produced at the apex; this portion is not pointed (as in most of the species of this genus), but truncated. The males are furnished with a tooth-like process internally at the apex.

In the collection of J. G. Children, Esq.

Sp. 5. D. Edwardsii (*Kir. MSS.*).

D. viridis, subtus pilis albis decumbentibus : capite cupreo : thorace obscure punctulatissimo, dorso subcanaliculato : scutello punctulatissimo : pedibus cupreis, tarsis viridi-cyaneis; tibiis anticis bidentatis.

Long. corp. 4—4½ lin.

Obs. This species is rather smaller than either of the foregoing, and appears to be rather more variable in colour, some being green and others cupreous. It has the clypeus deeply emarginated, the projecting portions narrow and diverging. The head is flat above, and uniformly rugose. The thorax in the male is dull, and in the female rather glossy and minutely punctured. The dorsal channel is indistinct, the lateral foveæ are small, and the lateral margins are produced into an obtuse angle in the middle. The scutellum is finely punctured. The elytra are rather short in proportion to the head and thorax, especially in the males. Terminal segment of the abdomen alike in both sexes, nearly flat, (under a strong lens,) finely punctured throughout, and sparingly furnished with decumbent hairs towards the apex.

The anterior tibiæ are bidentate externally, and furnished with a tooth-like process internally at the apex.

Described from specimens lent me by the Rev. W. Kirby; they were procured from the Swan River. These specimens, together with several others, are now in the collection of the Entomological Society, having been presented with that gentleman's collection.

Sp. 6. D. splendens, (*MacLeay*, in Appendix to Capt. King's Narrative of a Survey of the Intertropical and Western Coasts of Australia, p. 440.)

D. viridis, subtus pilis albis decumbentibus : thorace obscure punctulato, superne canaliculato ad latera pubescente : scutello triangulari lævi : tibiis anticis distincte bidentatis, dentibus piceo-rubris.

Long. corp. 4 lin.

Obs. In this species the head is slightly convex, thickly punctured anteriorly, and has an indistinct transverse groove on the posterior part, which is smooth; the thorax is almost impunctate; the dorsal channel is narrow and distinct, the lateral foveæ are large; the basal joint of the anterior tarsus is armed beneath with two spines, one at the apex and the other near the middle. The terminal segment of the abdomen approaches somewhat to the form of an

equilateral triangle; the central part is without the longitudinal groove observable in *D. Hopei*, but in its place there is a broad, flat portion, which is thickly punctured, and furnished very sparingly with decumbent hairs; the remainder of this segment is impunctate, without hair, and has a fovea towards each of the anterior angles.

In the male the clypeus is not very deeply emarginate; the thorax is glossy, and distinctly punctured; the apical segment of the abdomen flat, and furnished throughout with decumbent white hairs; the anterior tibiæ are bidentate externally, and furnished with a distinct tooth internally at the apex; these processes are of a pitchy-red colour: the hinder tibiæ are furnished with a spinous process which springs from the outer part and curves inwards and upwards.

The specimens from which the description was originally drawn were females, and were lent me by the Rev. F. W. Hope. Since the reading of the paper I have examined many specimens of both sexes, and compared them with the original specimen described by Mr. MacLeay in the work above mentioned.

Sp. 7. D. PULCHELLA (*Kir. MSS.*).

D. viridis: thorace punctato, dorso canaliculato; foveis lateralibus magnis et profunde impressis: scutello foveâ profunde excavatâ: elytris confluenter punctatis: tibiis anticis bidentatis.

Long. corp. $3\frac{1}{2}$ lin.

Obs. From either of the foregoing this species may be known by its great glossiness, smaller size, the straight lateral margins of the elytra, and more narrowed thorax. The anterior part of the head is very thickly and finely punctured; the posterior portion is glossy and distinctly punctured. Thorax glossy, distinctly punctured, the dorsal channel rather broad and deep; the anterior angles acute; lateral margins armed with a tooth or angular projection; the lateral foveæ are large and rather deep; the scutellum is impunctate and has a distinct fovea; elytra thickly and rather coarsely punctured. Body beneath sparingly furnished with white decumbent hairs; anterior tibiæ bidentate externally.

In the collections of the Entomological Society and British Museum.

Sp. 8. D. PILISTRIATA.

D. viridis, nitida; subtus pilis albis decumbentibus tecta, supra pilis albis ornata striis longitudinalibus supra elytra depositis: thorace canali lato dorsali impresso, foveisque 2 lateralibus, sparsim punctato: scutello lævi: pedibus testaceis: tibiis anticis bidentatis.

Long. corp. $3\frac{1}{2}$ lin.

Obs. The character from which I have named this species (viz. the elytra being furnished with pubescence arranged in longitudinal striæ), and the red colour of the legs, at once distinguish it from either of the others. The clypeus of the male is not very deeply emarginate; the lateral processes are wide apart and diverging; the head is thickly punctured and transversly indented posteriorly. The thorax is coarsely punctured, but the punctures are not thickly disposed; the dorsal channel is broad and shallow; the two foveæ, which in most of the foregoing species is confined to the lateral margins of the thorax, are in this extended from thence to the dorsal channel, and form a transverse indentation, which becomes deeper and broader as it approaches the margins, which are toothed. Scutellum short; anterior tibiæ distinctly bidentate externally; the inner tooth acute; the outer one (which forms the apex of the tibia) is recurved.

I have examined four specimens of this species; they are in the collections of the Rev. F. W. Hope, Mr. Spence, and the Entomological Society. I have also one in my own cabinet, which was given me by Sir Patrick Walker, who informs me there are specimens in some of the collections in Edinburgh.

Sp. 9. D. CASTANOPTERA.

D. viridis, pubescens : thorace canali lato dorsali, foveisque 2 lateralibus impresso; elytris pallidè castaneis, subseriatim punctatis: tibiis anticis bidentatis.

Long. corp. $3\frac{1}{4}$ lin.

Obs. In this species the clypeus of the male is not deeply emarginate; the head is rugosely punctured anteriorly, less so posteriorly; thorax distinctly punctured, the punctures confluent in the dorsal channel, which is shallow and very broad; the lateral foveæ are very large and shallow, and occupy nearly the whole portion of the thorax from the dorsal channel to the lateral margins, which are distinctly toothed; anterior tibiæ bidentate externally: these processes are very distinct, and in their form and position nearly resemble *D. pilistriata*.

Sp. 10. D. AURULENTA (*Kir. MSS.*).

Colaspidoides? Schön. Synon. Insect. i. p. 101.

D. cuprea, nitidissima, supra pilis albis ornata, subtus viridis, pilis albis decumbentibus: capite dense et crasse punctato: thorace crasse sed sparse punctato sulco transverso profundo; canali dorsali in partes duas, thoracis basin versus, diviso; marginibus lateralibus distinctè dentatis: elytris crasse punctatis: scutello

æneo, lævi: pedibus viridibus; tarsis cyaneis, tibiis anticis bidentatis.

Long. corp. 4 lin.

This species may be distinguished from all the foregoing by its rich copper-like colour, and the following characters: The head not very deeply emarginate in the male; thorax sparingly but coarsely punctured, divided by an irregular transverse indentation; the dorsal channel is deep, and gradually increases in width from the apex to the base, leaving a longitudinal elevated smooth surface in the centre; the basal portion of the dorsal channel forming, as it were, two oblong foveæ, which are thickly and finely punctured; the lateral margins of the thorax are dilated in the middle, so as to form an obtuse tooth on each side. Elytra coarsely punctured, the punctures confluent; the anterior tibiæ as in *D. splendens*; the inner portion of the (bifid) claws very thick.

The Rev. F. W. Hope, the Rev. W. Kirby, and Mr. Wm. Spence have each lent me specimens of this beautiful species for examination. There is a slight variation of the colour in different specimens, some being of a brassy green, and others more inclined to copper. There are also specimens in the collection of J. G. Children, Esq., which I have since examined.

Sp. 11. D. PARVULA.

D. viridi-ænea vel cuprea, supra et subtus pilis albis decumbentibus sparse tecta: capite punctato: thorace punctis magnis notato, foveis 2 longitudinalibus parallelis submediis basin versus, marginibus lateralibus subdentatis: elytris rugosis: scutello lævi: tibiis anticis inermibus.

Long. corp. $2\frac{1}{2}$ lin.

D. parvula is much smaller than either of the foregoing. The clypeus in this species is rather narrow, not deeply emarginate; the head is rugosely punctured on the upper surface, with the exception of a small smooth and shining space towards the posterior portion. Thorax coarsely punctured, divided transversely by an indentation, which becomes deep and forms a large fovea near the lateral margin of the thorax: the dorsal channel is scarcely to be traced on the anterior part; posteriorly it is divided, and forms two oblong parallel foveæ, having an elevated space between them; the lateral margins are indistinctly toothed; the anterior tibiæ are simple.

I am indebted to the Rev. F. W. Hope for several specimens of this insect. This gentleman has likewise deposited specimens in the collection of the Entomological Society.

Sp. 12. D. Spencii.

D. æneo-cuprea vel cuprea, supra et subtus pilis albis decumbentibus sparsim tecta : capite et thorace rugosè punctatis : thorace canaliculato, marginibus lateribus dentatis : scutello apice depresso, subpunctato : elytris subseriatim punctis confluentibus notatis : pedibus viridibus, tarsis cyaneis : tibiis anticis externe bidentatis, dentibus rufescentibus.

Long. corp. 2½ lin.

This species is about the same size as the last, but its proportions are very different. The head is very large ; the thorax is almost as wide as the elytra, and has the anterior angles produced into a tooth-like process ; dorsal channel indistinct ; the upper surface is uniformly and thickly covered with coarse punctures, which gives a dull appearance to that part ; the lateral foveæ are distinct. The scutellum is somewhat heart-shaped, and has the apical portion depressed and minutely punctured.

I have seen but two specimens of this small species : one was purchased from the collection of the late A. H. Haworth, Esq., by the Rev. F. W. Hope ; for a loan of the other I am indebted to W. Spence, Esq., after whom I have named it*.

Sp. 13. D. furcata, *Guérin, Griff. Cuv. Insecta,* vol. i. p. 483. plate lv. fig. 13.

" Black, with a white band on each side of the thorax. Elytra red with the base and suture yellow."

Never having seen a specimen of this species, the above account (which is from the work quoted) is all I am able to give. From its colouring I should imagine it could scarcely be one of this genus.

Mr. MacLeay, who has lately returned to England, having in a most liberal manner lent me all his specimens of *Diphucephalæ,* I am enabled to add three species which are distinct from those already described. I subjoin them as an appendix, not being able to insert them in their proper places, owing to the former part being already in the printer's hands. In this gentleman's collection I find the following species :—*Diph. sericea, splendens, aurulenta, parvula, Spencii, pulchella, pilistriata,* and the new species I am about to describe.

I may here mention that I have also lately examined numerous specimens of *Diphucephalæ* in the Collections of the Zoological Society and British Museum. The total number of specimens of this

* Since writing the above I have examined many specimens, some of which are in the collection of J. G. Children, Esq. The anterior angles of the thorax I find are not produced in the females as in the males.

genus which have been examined by me amounts nearly to two hundred*.

Sp. 14. D. RUFIPES.

D. viridis, nitida ; capite thoraceque punctulatissimis : thorace supra canaliculato : pedibus testaceis : tibiis anticis, tarsisque posticis cyaneis ; tibiis anticis ad apicem obsoletè bidentatis.

Long. corp. 3 lin.

In Mus. D. MacLeay.

Obs. This species is rather less than *D. pilistriata* : the head is very finely and thickly punctured throughout : the clypeus in the male is but slightly emarginate, and recurved ; the thorax is also finely and thickly punctured throughout, and is very convex, glossy, and sparingly covered with indistinct white hairs ; the dorsal channel is very narrow but rather deep. The lateral foveæ are small ; the elytra are short, punctured, the punctures confluent, and very sparingly covered with white pubescence ; the hairs are so short as to appear like dust, or very minute scales, rather than pubescence. The scutellum is of the form of an equilateral triangle, and smooth. The terminal segment of the abdomen is very long in the male, covered with white scale-like hairs, and furnished at the apex with a distinct tuft of hairs. The legs are of a pale reddish yellow colour ; the hinder tibiæ (with the exception of a small portion near the femora) and tarsi are black with a green or blue gloss ; the terminal joint of each of the anterior tarsi and the claws are pitchy black ; the anterior tarsi are bidentate externally ; the hinder tarsi are very long.

There is a specimen in the collection of the Zoological Society

* Some of the species described in this monograph may probably be the same as those noticed by M. le Docteur Boisduval, in his "Faune Entomologique de L'Océanie ;" but in the very loose descriptions there given the characters which I have found essential to identify the species, are entirely overlooked ; indeed these descriptions (where the size is not even mentioned) will do equally well in most cases for almost any one of the genus. M. Boisduval says, at the end of the descriptions, "Il est même probable que parmi celles que je viens de décrire, il y en a plusieurs qui ne sont que des variétés." I must say I never examined a group of insects in which good specific characters were so readily found.

I very much question whether a synopsis of *undescribed* species of insects is desirable, for the characters of these animals are seldom of such a nature as to admit of their being expressed in few words ; species, then, which have been only briefly noticed, must be re-described, and the person who takes upon him this task, in order to avoid the introduction of synonyms, of course must consult these brief notices ; here perhaps he finds that those characters, by which alone the species can be identified, are overlooked ; he must therefore give a new set of names to insects already named, unless he has an opportunity of seeing the original specimens noticed in the synopsis, a thing which perhaps he is not able to do.

which agrees exactly with this species, excepting that the hinder tibiæ are tipped only with black; and as this specimen is a female, and those from which the above description was taken were males, the black hinder tibiæ may be only a sexual character, or else it may be a character liable to variation in both sexes, a point which can only be determined by the examination of a number of specimens.

Sp. 15. D. PUSILLA.

D. viridis, pilis albis decumbentibus : capite punctatissimo ; thorace punctato, canali lato dorsali, foveisque duabus lateralibus : tibiis anticis bidentatis ; tarsis cyaneis.

Long. corp. 2¾ lin.

In Mus. D. MacLeay.

Descrip. The head is punctured throughout ; the thorax is narrow, and has the lateral margins produced in the middle, and forming an angle. The dorsal channel is very broad and distinct ; the lateral foveæ are very large, deep towards the lateral margins of the thorax, and extend to the dorsal channel. The thorax is distinctly punctured ; the punctures are most thickly disposed in the dorsal channel and lateral foveæ. The elytra are coarsely punctured ; the punctures confluent : the two elevated ridges on the disc of each elytron are distinct ; the terminal segment of the abdomen is convex, thickly punctured throughout, and covered with white pubescence.

Obs. I have seen only one specimen of *D. pusilla*, and this is a male ; it differs however in so many respects from its allies *D. parvula* and *D. Spencii*, that I have no hesitation in describing it as a distinct species. Upon comparing the three together we at once perceive a considerable difference in the form, owing to the elytra being longer and larger in proportion, and less convex, and the thorax being narrower in *D. pusilla* than either of the other two species. In *D. pusilla* the clypeus is nearly in the same plane with the fore part of the head, whereas in *D. Spencii* this part is considerably recurved, and rather more deeply emarginate. In *D. parvula* the clypeus is slightly recurved, and narrower than either of the other two. The thorax of *D. pusilla* has a simple shallow dorsal channel, whereas this part is divided by an elevated ridge in *D. parvula* ; the lateral foveæ are larger and deeper in *D. pusilla* than in *D. Spencii*, and are connected by a shallow transverse impression with the dorsal channel ; the thorax is more finely punctured in our present species than either of the other two ; the punctures are less thickly disposed and uniform than in *D. Spencii*. The anterior tarsi are longer and less dilated in this species than in the two with which we are comparing it.

There are many other minor points of distinction, but enough has been said to render it easy to identify the species. The only specimen I have seen being a male, I have, of course, compared with it the males of others only.

Sp. 16. D. PYGMÆA.

D. viridis, pilis albis decumbentibus: tibiis anticis bidentatis: capite thoraceque punctulatissimis: scutello triangulari, foveâ excavato, punctulatissimo; tarsis cyaneis.

Long. corp. 2 lin.

In Mus. D. MacLeay,

This is the smallest species of *Diphucephala* I have examined, being less than either *D. Spencii* or *D. parvula*: it is of a rich green colour, but not glossy. In the male the clypeus is rather narrow, and recurved, not very deeply emarginate: the head and thorax are shagreened, exhibiting, under a strong lens, very delicate punctures; the latter (which is rather broad) has a shallow dorsal channel, which is divided posteriorly by an indistinct elevated ridge; the lateral foveæ are large, and tolerably deep; the thorax in the female is more distinctly, although very finely, punctured. The scutellum has a large impressed fovea towards the posterior part, which is very finely punctured. The sculpturing of the elytra is more delicate than in the allied species *D. Spencii* and *D. parvula*; the two usual elevated longitudinal striæ on the disc of each elytron are tolerably distinct. The anterior tibiæ are bidentate; the tooth-like processes are of a pitchy red colour, and so are likewise the claws. The whole of the upper surface is furnished with white or yellowish decumbent hairs, which are rather thickly disposed.

The specimens examined are from New Holland.

DESCRIPTION OF THE FIGURES.

PLATE XXII.

Fig. 1. *Diphucephala sericea.*
- *a a*, Mandibles of do.
- *b*, Maxilla.
- *c*, Labrum.
- *d*, Mentum.
- *e*, Antenna.
- *f*, Hind leg.
- *g*, Anterior tarsus and apex of tibiæ.

2. Anterior tibia of *Diphucephala Hopei.*
3. Do. do. of *D. splendens.*
4. Claws of anterior tarsus of female, *D. Hopei.*
5. Do. do. of male.
6. Anterior tibia of *D. pilistriata.*